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1919

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University of the State of New York Bulletin

Entered as second-class matter August 2, 1913, at the Post Office at Albany, N.Y. under the act of August 24, 1912

Published fortnightly

No. 688

ALBANY, N. Y.

JUNE 15, 1919

STATE-AIDED EVENING VOCATIONAL SCHOOLS

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THE UNIVERSITY OF THE STATE OF NEW YORK

1919

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STATE-AIDED EVENING VOCATIONAL SCHOOLS

Purpose of the Bulletin

The purpose of this bulletin is to define the kinds of evening vocational schools entitled to special state aid under the provisions of section 605, chapter 531, of the Education Law, to describe the plans of organization and administration which experience seems to show are the most satisfactory, and to indicate to communities the proper procedure required to enable them to secure state aid.

In this bulletin will be found embodied considerable material which is the outgrowth of state conferences of vocational directors and teachers and of conferences of the National Society for Vocational Education, and the results of investigations and studies made by the Federal Board for Vocational Education.

Division of Agricultural and Industrial Education

The Division of Agricultural and Industrial Education of The University of the State of New York is charged with the general supervision of vocational instruction, as provided for under the State Education Law, the administration of vocational education under the provisions of the Federal Vocational Education act, and with the duty of gathering and making known all obtainable helpful information upon the subject.

Whenever the establishment of any form of vocational instruction is contemplated in any locality in this State, application for preliminary advice and guidance should be freely made to this Division.

Principles and Control of State Aid

State aid for evening vocational schools is made available, and the work of establishing such schools is thereby encouraged and stimulated, because of the obvious responsibility which rests upon the State, particularly at this time, of assisting in every way in the training and betterment of persons engaged in useful and profitable employment in the industries, in agriculture and in the house-

hold. Vocational schools will also help to make them generally better citizens. No scheme of public education today can be regarded as truly democratic which fails to make special provision for the vocational education of a large portion of the population of the State, namely, those engaged in industry, agriculture and homemaking.

The law commits to the Commissioner of Education the task of providing desirable forms of evening vocational instruction. He must approve, in each particular case, the plan of organization, the course of study and the general conduct of the school, as a necessary preliminary to the sharing of the subsidy provided for evening vocational schools.

Work and Province of State-aided Evening Vocational Schools

An evening vocational school is a school, or a department in a school, in which instruction is given in the trades, or in industrial, agricultural and homemaking subjects, to pupils over sixteen years of age who are regularly and lawfully employed during some part of the day, and which provides instruction in subjects related to the practical work carried on in such employment. Evening vocational schools providing instruction in homemaking are open to all women over sixteen years of age.

The fact that special state aid is given to evening vocational schools, as defined above, which are under public control and management and which are conducted in conformity with the rules and regulations of the Commissioner of Education, does not signify that there are no other forms of evening instruction which may prove to be of great value to persons engaged in the trades, in industry, in agriculture or in homemaking. Communities are encouraged to establish evening classes of every kind which will meet real needs, but the State is particularly desirous at this time of stimulating the organization of the above-mentioned types of evening vocational schools.

It is clearly the intent of the law that evening vocational schools, except those providing instruction in homemaking, shall have their attendance limited to persons already engaged in useful employment and that the instruction which they are to receive shall be directly related to such employment. It follows that state aid can be given only to those evening schools of the vocational order which give *special* rather than *general* training for the occupations in which their pupils are engaged during the day; a training which *supplements* the daily experience of the pupil with evening courses

bearing more or less directly upon his work and designed to make him a more capable workman. Existing schools which have well-equipped shops, laboratories and drawing rooms can be used at night to render important service for those who work during the day.

On the other hand the law distinctly states that evening vocational schools providing instruction in homemaking shall be open to all women over sixteen years of age employed in any capacity during the day. Therefore no direct connection need necessarily exist between the daily employment of the pupils enrolled in the homemaking classes and the instruction which they receive therein.

All the instruction offered in such schools will be for the purpose of affording individuals opportunities for improvement, and consequently for advancement, within a chosen occupation. Experience seems to show that larger numbers of individuals can be reached and helped in the evening classes than can be reached and helped through any other form of vocational education. It is not until after they have left school and have become wage-earners, that the majority of persons appreciate that promotion, progress and success come only to those who are the best fitted to compete with others. The evening vocational school does afford opportunity for increased efficiency. No form of school activity has more enthusiastic public opinion and support back of it than evening vocational work. It is practical in the extreme, meets a real need and, if properly conducted, is worth far more than it costs.

In the field of present-day education few problems are more complex than those arising from the conduct of evening schools. Free public training for persons of mature age in evening schools, whether for the purpose of increasing general culture and civic usefulness, or for the enhancing of vocational capacity, is a matter of great contemporary importance. The elements making for success and for high grade service are to be found in the keen and direct interest and purposes of the students. Once that it is conceded to be the duty of the State to provide education for its mature citizens, there can be no doubt that in no other department of school work will a determined educational investment produce such great returns.

State Aid

Special aid for evening vocational schools is given under the provisions of section 605, chapter 531, of the Education Law. The

portion of the law, article XXII, concerning general industrial schools, unit trade and technical schools, part-time or continuation schools, practical arts or homemaking schools, schools of agriculture, mechanic arts and homemaking and evening vocational schools and all the amendments to date, are printed in full in this bulletin.

Under the provisions of the law the State will apportion to each city and school district on account of the salary paid to the *first* teacher in an approved evening vocational school or class an amount equal to two-thirds of the salary paid to such a teacher; and it will also make an additional apportionment equal to one-half of the salary paid to each additional teacher, but not exceeding one thousand dollars on account of any one teacher.

Any person employed as a teacher may serve as the principal of an evening vocational school or as head of a vocational department in an evening school.

It is to be noted, however, that no *federal* funds, as provided for under the Smith-Hughes law, are to be distributed for evening classes entitled to aid under the provisions of section 605 of the Education Law. At a later date when larger apportionments are available it may be possible to give federal funds to local communities to aid the work in evening vocational schools.

Local Authorization of Public Vocational Schools

The school authorities of cities have power, under section 600 of the Education Law, to establish and maintain vocational schools; but for their establishment and maintenance in school districts, section 602 of the said law requires the authorization of a district meeting, which may be given by the adoption of a resolution of substantially the following form:

Resolved, That the board of education of union free school district No., town of, county of, be hereby authorized to establish, acquire and maintain a (state here the kind of school or schools to be authorized, using therefor the appropriate description thereof given in section 605 of the Education Law).

Due provision should be made annually for raising by tax the amount required to maintain authorized schools, as directed by section 607 of the Education Law.

How to Secure State Aid

State aid for evening vocational schools or classes can be secured by local communities under the following conditions:

Any local community desiring to secure state aid for evening vocational schools or classes shall submit to the Commissioner of Education within thirty days of the opening of an evening school or class a plan showing how the community expects to meet the requirements of the law and the regulations of the Commissioner of Education governing such evening vocational schools.

This plan shall include

- 1 The general administrative scheme.
Course or courses to be offered.
Number of nights school is in session.
Length of each course.
- 2 Complete and detailed courses of study.
- 3 Special advisory committees and subcommittees.
- 4 Applications for licenses for such teachers as do not hold regular authorizing certificates.

Application should be made to the Director of the Division of Agricultural and Industrial Education for all necessary forms for the submission of such a plan.

General Requirements

The general requirements to be met by the local authorities desiring state aid on account of the maintenance of evening vocational schools are as follows:

1 All schools and classes must be under public supervision and control.

2 Pupils admitted to evening vocational schools or classes shall be sixteen years of age or over, and physically and mentally able to do the work required.

3 Pupils admitted to evening agricultural or industrial schools or classes must be regularly and lawfully employed during some part of the day.

4 The instruction provided in the agricultural and industrial courses must be definitely and helpfully related to the practical work carried on in the employment in which the students in the class are engaged.

5 Evening vocational schools providing instruction in home-making are open to all women sixteen years of age or over who are employed in any capacity during the day.

6 The equipment provided should be adequate to carry out the courses of study submitted for approval.

7 There should be adequate supplies for carrying on the vocational courses.

8 Teachers with special training should be employed.

9 All shop classes must be limited to eighteen students to one instructor; classes in drawing and related subjects to twenty-four students to one instructor and all homemaking and agricultural classes to twenty students to one instructor.

10 Records must be kept on file in each industrial class showing the name of student, age, kind of employment, name of employer and address of employer.

11 The course must receive the preliminary approval of the Commissioner of Education after submission of plan of work.

12 The course must be approved by the Commissioner of Education after inspection.

Administration

Effective evening school instruction is conditioned by detailed and adequate planning. Systematic and careful prearrangement of work in connection with courses of study, class programs, service of specially qualified teachers, properly adapted equipment, comprehensive supervision and proper administrative plans, will do much to bring about the maximum of pupil attainment, which is the real end of service to be sought in evening schools. This bulletin purposes to indicate in the main the particular problems and the ways in which they have been best met, not only in this State but throughout the Nation.

Out of the peculiar and differentiating characteristics of the evening school population, in contradistinction to the day school population whose needs have been fairly well charted, arise the difficulties attendant upon the conduct of evening vocational schools. We may sum up in a few statements the more important of these differentiations. The pupils in the evening schools are workers, hence evening vocational schools are workers' schools; the students represent every variety of ambition, need, interest, race and creed, hence evening schools are truly cosmopolitan and democratic; the pupils for the most part know what they want, hence all instruction should function to meet real needs. Such contrasts indicate that evening school work should be for the purpose of meeting individual and group needs; consequently some of the established practices of teaching will have to be disregarded, and some of the customary educational implications will have to be forgotten if the requirements of this most unhomogeneous, ambitious and tireless group are to be met.

This brings us to a consideration of the problems of administration, the principal ones of which are those relating to

Community needs

Organization of courses of study

Selection of teachers

Advertisement of work of school

Registration of pupils and school records

Conduct of a school

Methods of teaching

Cooperating with outside agencies

Community Needs

The type of courses offered should be in general such as will meet the needs of workers resident in the community. Upon the local school authorities rests the responsibility for the proper determination of what constitutes these needs. A community survey including a special and extensive study of the trades and industries will give an exact basis of fact upon which to work. Perhaps no vocational instruction of any kind should be offered until such survey has been made. After a clear knowledge of what may properly find a place in a local plan of industrial education has been obtained, individual desires and demands may be considered. In places where the workers have organized associations along trade lines preferences for certain types of instruction may be easily discovered if a request is made for such associations to formulate an expression of opinion. If there be no trades bodies it will be well worth while to obtain the sentiment of such groups of workers as can be reached through industrial establishments. It is certain that some opportunity should be given for individuals engaged in the occupations to voice their needs.

The changing demands of industry must be kept constantly in mind if the wants of both employers and employees are to be satisfied. New methods, new processes, new designs, new standards of production, if brought to the attention of industrial workers by the educational authorities, will soon create for a school a prestige entitling it to a position commanding the respect of those for whose benefit it was instituted.

Organization of Courses of Study

All instruction given in state-aided evening vocational classes shall be supplemental to the daily employment of the students,

except that no such requirement is set up in the case of classes in homemaking. The course of study, then, of every trade extension class should be centered about specific trade practices or theories. It has been demonstrated repeatedly that satisfactory teaching in a trade subject can not be done in a class which is not organized on the basis of a common trade experience. Apprentices, journeymen and foremen will as a general rule be instructed in different class units. The Commissioner of Education can not approve for aid courses of study which are not particularly adapted to the needs of the workers in the specific occupations which the courses are planned to supplement.

All persons in a trade extension class should come from a common trade or from closely allied trades. No attempt should be made to secure special state aid for a course in machine shop practice planned to help a patternmaker, carpenter, plumber, janitor and watch repairer make a change from their regular trades to that of machinist.

Some courses of study should be planned on a short term basis. The most successful schemes have in view from ten to sixty nights of instruction in a single term unit. In courses in related theory it is often wise to give only two nights of instruction each week; in the case of courses in shop practice better results are secured where the training is more intensive. It is certain that the needs of the pupils will be best subserved by making suitable provision for nights to be devoted to recreation. Probably three nights of instruction each week would be the maximum number for which registration should be permitted and not more than ten continuous weeks of work on that basis should be arranged for.

In regard to the short unit courses it is very important that certain fundamental facts should be recognized. The short unit course of instruction has its special value for adult workers who have not the habit or inclination to attend courses of any length. Adults can be drawn for the most part to the evening school only to obtain assistance for some direct and particular need which arises from their immediate practical work. For young persons between the ages of 16 and 21 it is far better to offer courses of one or more years in length, composed of matter that relates directly to trade needs but is differentiated to its fullest extent. Inasmuch as for younger persons no fixed place in the industrial world has been determined, it is a mistake to emphasize to them the idea of the short course, which places the educational stress upon a practical part of a single subject of instruction.

Teaching should be closely related to the concrete since the average industrial worker is fitted neither by experience nor training to acquire knowledge through abstract instruction. In the study of such industrial subjects as mathematics for carpenters, or drawing for machinists, the problems to be worked out should not only be practical in the extreme but this practicability should be made manifest to the student in that the problems should be either derived from the realm of familiar trade experience or else should grow out of some practical contact brought about as a part of the instructional process. To be of real value in the teaching of theory or practice a situation or thing must have come within the experience of the student.

In larger communities it may be found possible and profitable to organize a series of short sequential courses which will permit a pupil to begin his work at the point of greatest need. Related mathematics, applied drawing and shop work constitute a trinity of instruction which satisfies the demands of workers in a very large number of occupations. Courses can be arranged to run parallel to one another if the demand is large enough, otherwise in sequence. Pupils should always be able to complete any unit of instruction within the time that it is probable that the school can hold them.

It is the consensus of opinion that a proper determination of what should be taught in a specific trade or industrial course can not be reached until the instructor is able to analyze his trade, or to list out all the things which a learner must be taught if he is to be taught a complete trade, or a well-unified and circumscribed portion of a trade. For the proper arrangement of an effective instructional order this analysis is absolutely necessary. The instructor must see his trade not only in terms of the practical but also in terms of the theoretical.

The teacher must know and be able to analyze his trade and must also be able to impart, that is, he must have or acquire for himself the ability to teach. He must know that teaching is done through the medium of lessons, that every lesson must have a specific aim, that it must be developed by suitable methods, and that, particularly in the case of those who have not much experience in teaching, it must be planned out on paper with due regard as to preparation, presentation, application and testing. The good teacher will know that the lesson is taught to get the learner to gain by his own activity.

Though these points may seem to be elementary, they often have been little recognized in connection with evening school work. The short time given each night to instruction, the limited opportunity for supervision and the lack of any professional training on the part of many of the teachers make it imperative that greater attention be given to the problems of the organization of courses of study, the methods of teaching and the general planning of work.

Selection of Teachers

Unless a teacher well qualified for the work is secured the class is doomed to failure even before its organization. Two qualifications are essential for teachers of evening vocational classes; first, a sympathetic understanding of the needs and aspirations of the pupils who are to be served, and second, an absolute mastery of the particular portion of the trade or related subject to be taught. Many other elements enter into the makeup of the successful teacher in the vocational education field which are common to and apply to all public school teachers.

Contact for a considerable period with trade conditions and actual experience for at least five years in the specific branch or branches of the trade to be taught, may be regarded as fundamentally essential.

No teacher should be engaged who has not a special authorizing certificate, issued under section 280 of the Regents Rules, which requires, generally, evidence of graduation from an approved high school, or the equivalent, and also from an approved professional institution wherein the applicant completed a two-year course of study in the subjects to be taught. Such rule, however, permits a special vocational certificate to be issued to a candidate who does not fully meet the foregoing requirements, if he establishes to the satisfaction of the Commissioner of Education that he is qualified to teach. To satisfy the Commissioner, the applicant will be required to furnish evidence of intimate knowledge of the subjects which he is to teach, gained through actual experience, and evidence of a satisfactory general education, and he may be required to take a testing examination.

As a part of the state teacher-training plan, courses for the preparation and improvement of persons recruited from industry to serve as teachers have been set up in Albany, Buffalo, Rochester, Oswego and New York City. Whenever possible, selections should be made from among applicants who have taken such teacher-training courses.

It is most important that every evening trade extension teacher should have the training, experience and ability necessary to command the respect of those from the occupation who are seeking instruction. It is recognized in the case of teachers of shop subjects that a standard academic education is not nearly so important as real trade capacity and power to teach successfully the shop processes. The teacher's prestige in the eyes of his students must be due to his skill, technical knowledge and trade standing.

To secure those best qualified to serve as teachers the community should pay a suitable wage. In fixing upon a rate it should be kept in mind that the compensation can not be for the actual number of hours of instruction alone. Outside preparation of lessons and numerous conferences of the director and his teachers are necessary.

Advertisement of Work of School

Particularly in larger communities the effectiveness of any scheme of evening vocational training will depend upon the widest sort of publicity being given to the plan. It is true that in the past the workers have not been accustomed to look to the public schools for trade or technical instruction, but rather to private agencies which have advertised the value of such forms of education. Consequently advertising will have to be made use of to call attention to free public school activities of like kind. The resultant of our state plan of elementary education depends in large part upon the proper enforcement of the compulsory attendance laws. The advertising agent of the evening school has quite as important duties to perform in his field as has the compulsory attendance officer in his. Many persons are in a vague way aware that evening school instruction is given in various parts of the State, but the fact that definite and helpful opportunities along vocational education lines are open to many adults, who may desire to make progress in their chosen occupations, is little known or appreciated in many communities.

Advertising should make a direct, intimate, personal appeal to individuals who will benefit by evening vocational training. General advertising does not produce the desired total of results. The call should go to the many men in many occupations; it should attract the attention of the bricklayer, the plasterer, the machinist, the bookbinder, the sheet metal worker and what not. If newspaper advertising is made use of, it should be supplemented by

additional writeups describing the separate vocational courses. Let the machine hand who is now working on the planer and wants to learn how to operate another machine know that if he will come to evening school for ten nights he can learn to operate the universal grinder.

Information concerning homemaking courses may be sent directly from the public schools to those in the home whom it is desired to reach through the agency of the pupils. Printed information may advantageously be given children to take to their mothers, or it may even be found worth while to set apart a period for their instruction concerning the plan, purpose and work of the evening school.

Employers' associations and labor unions will welcome a representative of the school system at their meetings. The practical character of vocational education assures the hearty cooperation of these organizations. More than this, it will be through conferences of like sort that a local director of vocational education will come into a better understanding of what the intimate needs of the workers are. If it is not possible for a school representative to visit such bodies letters may at least be sent to them setting forth the opportunities which are open, and of special interest to the groups addressed.

In many cities the plan of placing posters in the street cars, stores, industrial establishments and various public places has furnished desirable publicity. Shop owners or managers have frequently written personal letters to employees calling attention to the advantages of evening school instruction; they have also been willing to place notices in pay envelopes.

Attractive exhibits of the work of evening school students placed in store windows in the business section, or open to inspection on particular nights in the school buildings frequently prove to be valuable advertising. In planning such exhibits it will be found well worth while to give proper credit to both students and teachers for the work which is exhibited.

Particularly at the time of the initiation of a plan of evening instruction many advertising devices will have to be resorted to if a sufficient amount of interest is to be aroused. The idea that vocational training given at night is a worth-while form of education will be firmly fixed in the minds of workers only after several years of persistent publicity preceding really valuable courses of instruction.

Sequential short unit courses require continuous advertising. In fact, unless such a campaign is kept up classes can not be secured or maintained.

All the preceding indicates that considerable time and money may be expended in doing what at first glance does not appear to be a proper function of the school. School boards and directors of evening vocational classes may rest assured, however, that unless proper attention be given to the work of advertising the school will fail to perform the service in the community which it should perform.

Registration of Pupils and School Records

A uniform plan of registration of evening vocational school pupils throughout the State is recommended. Inasmuch as certain information is needed at the time of inspection regarding the makeup of the class and also required by the Commissioner of Education for the annual report, a simple but comprehensive form of registration and record card should be used. Such a card may be used later to assist students who desire recommendations on account of their evening school work. It may also prove of value to the director of evening vocational schools in the distribution of advertising material.

That registrations may be made on a sound basis it is recommended that the preliminary steps be taken in advance of the opening week. Opportunity should be given on certain nights preceding the commencement of class work for prospective pupils to consult with the director or principal and be tentatively assigned to a section for work. A clear understanding on the part of those desirous of taking up evening school work of just what they may expect to obtain in the way of benefits will do much to lower the student attendance mortality, and to insure a satisfactory attitude toward the school. A mistaken idea as to what constitutes a certain course will be found to be the explanation of many, if not all, of the requests for changes from class to class, or for permits to drop a course, which come to the director during the first two weeks of school. The director or principal and well-qualified assistants of experience should handle this preliminary registration.

Final placement in a class should not be made until the pupil has satisfied the teacher concerning his ability to profit by the work. This is about the only satisfactory basis upon which a classification of any kind can be made.

Students seeking evening school work come with every sort of preparation and experience, and only the deepest and most sympathetic insight and help on the part of the director and teachers will insure any kind of proper class assignment.

Information which should be obtained from students at the time of preliminary registration, and which should be kept on file and ready for inspection and which may be required by the State Department before final approval of a class for aid is given, includes

- 1 Name of student
- 2 Age
- 3 Occupation — a clear designation of just what the student does and which he declares entitles him to admission to a state-aided class
- 4 Name and address of individual, concern or corporation employing student
- 5 Previous school record

The student's final record should indicate the total number of nights of attendance, the teacher's estimate of grade of work done and a record of the kind of certificate granted, if any.

Connected with the subject of registration and records is the matter of admitting pupils to classes at irregular intervals. It may be safely established as a matter of regulation in all communities that admission to classes should be made at stated times only. After the opening session the waiting lists for registration for subsequent classes may be kept open and on a fixed date new registrations may be made.

The size of classes should be fixed at the time of registration. It is required that shop classes be limited to eighteen pupils to an instructor and classes in related subjects to twenty-four pupils to an instructor. Since a great deal of the evening instruction is individual and the class periods are relatively limited, the reason for the recommendation is obvious.

Particularly in the case of related subjects nothing does so much to disorganize classes and instruction and to discourage earnest pupils as the method of permitting registrations for a course to be made at any time. Much labor will be saved, unnecessary friction avoided, and dissatisfaction prevented by a proper regulation of applications and admissions. This will also eliminate over-crowded classes and prevent delays in instruction.

Conduct of a School

The board of education in a city, or the officer having the management and supervision of the public school system in a community not having a board of education, is primarily responsible for the management and conduct of state-aided evening vocational classes. A responsible head, however, should be selected for this work, and ample time should be given him to carry out his plans. Industrial communities with a population greater than 10,000 are of sufficient size and the work is of enough moment to justify the employment of a competent director or supervisor to be charged with the responsibility of evening vocational work. It is upon the work of this executive that the success of the enterprise depends. It is he who will arrange for the conferences of employers and employees, who will plan the advertising, who will help select the teachers, plan for the location of classes, have charge of the enrolment, have regular evening office hours for consultation with ambitious workers, and provide information for the superintendent of schools and board of education. It is to be noted that the principal or director of a state-aided evening vocational school may be counted as the first teacher in such a school and that in consequence the community employing a director may be apportioned in the annual apportionment of state school moneys, a sum equal to two-thirds of the salary paid to such director or principal, but not exceeding one thousand dollars.

A very important factor in successful evening school instruction is the regular attendance of pupils. School equipment and time is wasted, and accomplishment is less when attendance is irregular. It is clear that, as in the day school, a certain amount of non-attendance is due to causes beyond the control of the pupils or teacher. Upon the director and teacher may be clearly fixed the responsibility for nonattendance in the case of absence due to social affairs, failure to hold the interest and attention of pupils, lack of discipline, ineffective methods of instruction, large classes, and improper classification of students.

Students who are absent from a class for a week without a suitable reason, or whose attendance is irregular and unsatisfactory should be dropped from the class and notice to that effect sent to them.

Boards of education in many communities have adopted the practical expedient of requiring the payment of a deposit by the

pupil at the time of registration. This deposit is returned at the end of the course, or at the end of the term to such pupils as have maintained satisfactory records of attendance.

Methods of Teaching

Good teaching in evening school is conditioned by a proper understanding on the part of the teacher of the needs of the students. This understanding may be had only when the instruction is planned in every case to be helpful from the outset.

The method of teaching should be group instruction, supplemented by individual instruction. Care should be taken not to give too much individual aid. Pupils should learn to be self-helpful and self-reliant; otherwise individual initiative is stifled. Inasmuch as one of the prime requisites of an industrial worker is ability to produce, the highest standards of workmanship and attainment should be required by the school. Conditions such as prevail in industry should be maintained.

In trade extension courses only the up-to-date methods of the trade should be taught. There should be, however, demonstrations of different methods of doing the same thing. The pupil's instruction should never be limited wholly to the passing practice of the moment, as the comparison of various methods stimulates thought and resourcefulness with regard to trade theories and trade processes.

Particularly in the case of inexperienced teachers the work of each period of instruction should be planned in advance and the plan submitted to the principal or supervisor for criticism and suggestion. It will be worth while to include in such a plan every detail of class organization and management. The exact character and extent of the work of any given unit of instruction should be definitely fixed and clearly explained to all students before that work is actually started; since the end of attainment will be thus clearly in view students will make greater efforts than could be expected under any plan which lacks definiteness of purpose.

As a matter of economy of time, individual instruction sheets can be used to considerable advantage in connection with many courses, particularly related courses. No single student will be kept from making constant progress with such a plan in vogue. In addition, the courses can be modified to meet special demands. Each instruction sheet should be planned to occupy the attention of an average pupil for a single evening of work. The principle

involved should be clearly indicated and the minimum of suggestion as to the procedure given; make the student as self-dependent as possible; never do for him what he can do for himself.

Procedure in shop courses will depend upon two things: (1) a clear understanding of the sequential order of difficulty of the fundamental processes of operations involved in the trade, and (2) a proper choice of projects involving such processes. Definite, helpful, intimately related shop talks on tools, machines, materials or trade methods should form a part of every period of instruction. It should always be kept in mind that one of the primary purposes of industrial education is to offset the monotony of narrow specialization in modern industry through the development of extensive industrial intelligence as well as skill. Each step in the mastery of a trade, to be sure, will be held up as a goal to be presently reached, but the ultimate aim of the vocational teacher is the broad training growing out of a proper contact with all the phases and angles of an occupation. The occupation of an individual should be made to seem worth while in terms of life value as well as those of wage return.

The Director of Agricultural and Industrial Education will furnish upon request special material on the topic of methods of teaching industrial subjects. The material is particularly intended for the use of persons from the trades who may desire to acquire in a short time such information as may be helpful to them in their work as teachers. The material is suggestive only and is not to be regarded as in any sense a substitute for a teacher-training course or for any part of a teacher-training course.

Cooperating with Outside Agencies

No evening vocational school can attain to any degree of success when measured in terms of civic usefulness, which does not encourage the largest cooperation of all the agencies which may be interested directly or indirectly in industrial, agricultural and home-making education. Every city or school district maintaining vocational schools is required by law to have an advisory board to counsel with and advise school authorities in the establishment and maintenance of such schools. The board should be representative of the industries and occupations of the community. A special and separate advisory subcommittee might advantageously be appointed by the advisory board for each important trade taught in the school.

These special subcommittees should preferably consist of five persons, two employers, two employees, and a lay member. They should report to the advisory board and on important occasions involving large questions, might desirably be permitted to sit with such board. To these subcommittees may be referred, as to bodies of technical experts, the consideration of courses of study, qualifications of men from the trades who may be needed as teachers, selection of suitable equipment, and the economic purchase of supplies. The director or principal teacher of the school should be the secretary of the advisory board and of the various subcommittees as well.

It is required that the organization and membership of the advisory board shall be reported to the Commissioner of Education on blanks furnished by him.

The advice of most of the social and industrial agencies in a community should be solicited in the initiation and conduct of a plan of evening vocational training. There should be secured the approval and support of the individuals who have shown in the past particular interest in general education; it should be pointed out to such persons that vocational education is not at variance with, but serves as an auxiliary to, general training. Employers of labor and employees will readily understand that their interests are identical and that the genius of democracy has been the untrammelled development of every portion of society according to its own particular interests and desires. Evening vocational schools, it should be pointed out, afford special opportunities for the development of the powers and capacities of those who wish to make progress in the world of industry.

In order to make evening vocational schools an integral part of the community the work of such schools should be made plain to the general public through the agency of the newspaper, and if possible, by means of specially printed bulletins. The director will also need to plan exhibits, to visit factories, to speak before organizations and to consult individuals.

Evening Vocational Schools and the Small Community

Many small communities in the State have a distinctive industrial population which can be well served through the agency of evening vocational schools at a minimum expense. Perhaps there is no other type of education which can be so easily made to serve the needs of the workers in places with populations of less than

10,000. This is particularly true in the case of the one-industry locality where practically every worker has a vital interest in making progress in a single occupation or in a group of occupations centering around a similar product. It is not expected that for such training elaborate equipment will be installed or that a large amount of money will have to be expended for supplies. Rather, it is hoped that in the main, use will be made of existing facilities or such as can be secured through loan or by the cooperation of local manufacturers who may be interested. For the small community, instruction in drawing and related subjects will constitute the bulk of the evening work for men. A very considerable amount of homemaking instruction can be given without much special equipment.

Well-qualified men and women from the immediate neighborhood can frequently be secured to serve as instructors. Persons with good general education, considerable trade experience and proper personal qualifications may obtain from the State Education Department, upon recommendation by the local school authorities, accompanied by satisfactory testimonials as to character and ability, a temporary license to teach in an evening vocational school. Such a license may be renewed from time to time if the applicant's work proves to be satisfactory. In such cases preliminary approval of the teacher and of the course of study should be obtained from the Commissioner of Education. It is always expected that when licensed teachers or graduates of special teacher-training courses for vocational work are obtainable that such persons should be given careful consideration and preference in the matter of appointment.

In general, community needs will be best served by the offering of sequential courses of a diversified character over a period of several years. This will help particularly to arouse interest and to encourage attendance. During a single season it may be possible to offer three units of instruction, classes meeting on two nights a week in such subjects as related drawing, mathematics and science; at the same time there may be offered homemaking courses in such subjects as the making and trimming of hats, special study of food values, and the making of unlined dresses, etc. A simple test of the demand for evening instruction, if properly made, will serve to bring home to the community a consciousness of the added value which arises from the extended use of existing educational facilities. In the small places it will be unusually easy to give every resident a clear idea of the aims and purposes behind any plan of

vocational training. Further, the exodus of young men and women from rural communities, which is due in part to the lack of opportunities in the way of life-work training, may be checked if only school authorities with vision and confident hope and faith in the future will initiate some progressive and rational plan of education to help those who must go early into the workaday world. There are about one hundred communities in the State with populations of 5000 or more, in only a few of which has any evening trade-extension work been developed; that properly organized and conducted evening vocational instruction would contribute to the needs of large numbers of individuals residing in these communities is obvious.

The Division of Agricultural and Industrial Education is particularly desirous of assisting in the initiation of the evening work in localities which will perhaps be unable to afford any other kind of specialized vocational work. Representatives of the division, upon request, stand ready to confer with school boards or superintendents, to conduct surveys for the determination of local needs, to advise as to the courses of study and to help in the organization of classes. A very considerable amount of literature and suggestive material is now available for distribution without cost. Further, the State provides for the apportionment of special financial aid under the general conditions set forth in this bulletin.

Suggested Courses

A very wide range of state-aided vocational courses has been offered in New York during the past year. A list of these may prove to be suggestive. They will indicate possibilities for extension of the work.

Trade Extension Courses for Men

Architectural drawing

Elementary courses

Advanced courses

Acroplane construction

Courses for wood specialists on aeroplanes

Automobile work

Carburetors

Chassis

Engine testing

Ignition

Starting and lighting

Testing

Theory of gas engines

Baking

Theory and science of baking

Blacksmithing

Elementary courses in blacksmithing

Ornamental forging

Cabinetmaking

Advanced cabinetmaking

Cabinet design

Drawing and estimating for cabinetmakers

Elementary cabinetmaking

Carpentry

Drawing for carpenters

Framing

Inside finishing

Mill work

Plan reading and estimating

Sketching

Stair building

Commercial photography

Theory and practice

Design

Book illustration

Commercial retouching and commercial design

Costume design

Interior decoration

Jewelry design

Ladies' garment design

Men's garment design

Plastic design

Poster design

Structural steel design

Textile design

Electrical

A. C. theory and practice

D. C. theory and practice

Drawing and blue print reading for electricians

Electrical theory

Inside electrical work

Municipal electrical theory

Power plant operating and theory

Sign flash work

Telephone work — theory and practice

Hydroplane boat building

Drawing, layout work and practice

Industrial chemistry

Elementary courses in industrial chemistry

Advanced courses in industrial chemistry

Machine shop

- Advanced machine shop practice
- Advanced drawing for machinists
- Blue print reading for machinists
- Elementary drawing for machinists
- Elementary machine shop practice
- Freehand sketching for machinists
- Shop mathematics for machinists
- Theory of materials and processes
- Tool designing
- Tool making

Mechanical drafting

- Advanced mechanical drawing
- Elementary mechanical drawing

Motion picture operating

- Theory and practice of motion picture machines

Oxy-acetylene welding

- Theory and practice

Patternmaking

- Advanced patternmaking
- Blue print reading and drawing for patternmakers
- Elementary patternmaking for apprentices

Photo lithography

- Elementary theory and practice
- Advanced theory and practice

Player piano

- Player piano mechanics

Plumbing

- Blue print reading and estimating
- Lead work
- Plumbing installation
- Shop mathematics for plumbers
- Theory of plumbing — sanitary code

Printing

- Advanced hand composition
- Cost estimating
- Elementary hand composition
- Job and cylinder press work
- Kelly press operating
- Linotype operating
- Monotype operating
- Offset presses — theory and practice
- Proof reading
- Typographical design

Sheet metal

- Advanced drawing for sheet metal workers
- Advanced shop work
- Elementary drawing for sheet metal workers
- Elementary shop work

Ship building

- Lay-out work
- Naval architecture
- Ship drafting
- Theory of ship construction

Sign painting

- Show card writing
- Sign painting

Steam power plant

- Theory of steampower plant operating

Tailoring

- Ladies' garment making
- Men's garment making

Trade Extention Courses for Women*Architectural drawing*

- Elementary courses in architectural drawing

Automobile work

- Theory and practice of automobile work

Corsetmaking

- Designing and making corsets

Design

- Book illustration
- Commercial retouching and commercial design
- Costume design
- Interior decoration
- Jewelry design
- Plastic design
- Poster design
- Textile design

Drafting

- Drafting ladies' garments

Draping

- Draping ladies' garments

Dressmaking

- Advanced dressmaking
- Elementary dressmaking

Embroidery

- Trade embroidery

Industrial chemistry

- Elementary industrial chemistry
- Advanced industrial chemistry

Machine operating

- Embroidery machine operating
- Garment machine operating
- Glove machine operating
- Straw machine operating

Millinery

- Advanced courses in millinery
- Elementary courses in millinery

Novelty work

- Advanced courses in novelty work
- Elementary courses in novelty work

Printing

- Proof reading

Tailoring

- Ladies' garment making

Homemaking Courses

The law indicates that evening vocational schools providing instruction in homemaking shall be open to all women over sixteen years of age who are employed in any capacity during the day.

Vocational homemaking education includes those forms of vocational education the direct object of which is to fit for homemaking as practised by the wife and mother in the home. Vocational homemaking courses are correlated with a composite vocation and may include a great variety of types of work the aim and purpose behind which are increased intelligence and skill as a homemaker.

When the work for the year is planned the aim of each course in terms of benefits for women students should be clearly defined, and registration should be made upon the basis of this definition. There should be no overlapping of work because of failure to recognize the fundamental difference between these two recognized types of state-aided evening courses for women.

Courses of study should be formulated, teachers selected and equipment chosen with one of two ends in view. The equipment for vocational homemaking should conform as far as possible to ideal home equipment. This ideal can of course be only approximated in the school. The equipment for trade extension courses should be in keeping with that found in the best and most modern industrial establishments.

Some Suggested Vocational Homemaking Courses

1 *Foods*

- Purchase and care of foods
- Preparation of three home meals
- Serving of meals
- Preparation of the school or dinner pail luncheon
- Food for infants, growing children and aged people
- Nutritive value of foods
- Invalid cookery
- Use of meat substitutes and left-overs
- Canning and preserving
- Planning of menus
- Special courses in types of foods as meats, bread, vegetables, salads, desserts and the like
- Use of the fireless cooker
- Pure food legislation

2 *Household management*

- Simple methods of cleaning wood, metal, china, glass
- Use of disinfectants, deodorants and exterminators
- Cleansing of pipes, traps, drains
- Care of refrigerator
- Cleaning
- Cleaning rooms and cellar
- Labor-saving devices and equipment
- Budget making
- Household accounting

3 *Health*

- Personal hygiene
- Care of infants and children
- Home nursing
- First aid to the injured
- Food and clothing in their relation to health
- Municipal health regulations

4 *Clothing*

- How to choose underwear; what to buy and what not to buy
- Purchase of ready-to-wear clothing
- Making of infants' and childrens' clothing
- Making of shirt waists and house dresses
- Use of commercial patterns for garment making and dressmaking
- Mending and remodeling
- Renovating and cleansing of clothing
- Laundering
- Millinery renovating and remaking hats; making and trimming hats

5 *House planning and household decoration*

- Arrangement of house for comfort and efficiency
- Arrangement of a convenient kitchen
- Selection and arrangement of furniture for the living room, dining room and bed rooms with reference to comfort, attractiveness and economy of time in its care.

Buildings, Equipment and Supplies

For the most part evening vocational schools will utilize the buildings and equipment provided for regular day school work. Frequently it will be found that the advanced character of the courses offered and demanded, and the maturity of the pupils will necessitate more equipment than that used for regular instruction. In such cases other provision should be made. In particular classes in shop subjects and homemaking education depend, for their vital connection with the trade and with the home, upon types of equipment. It is needless to say that obsolete machinery and antiquated tools should find no place in evening vocational schools. The Division of Agricultural and Industrial Education will be glad to advise concerning equipment.

Adequate illumination for all classrooms is most essential; good overhead lighting, aided by light-colored walls and supplemented by a sufficient number of localized lights is necessary for any kind of manual work. Adequate illumination makes for satisfactory class work and acceptable product and reduces the risk of nerve strain which may result from the constant effort to see. It has been noted that the attendance in properly illuminated schools is much better than in those with insufficient lighting.

Supplies and books should be provided for use in the evening schools. Many communities now provide free textbooks and supplies for day school pupils. The same provision should be made for evening school students. Lesson sheets and specially prepared outlines for courses in related subjects are as a rule furnished to students without cost; this is also true of supplies for work in drawing and design.

Pupils in state-aided homemaking courses generally furnish, with the direction and advice of the teacher, needed supplies or else assume the burden of cost when the purchase is made by the school.

Manner of Conducting Vocational Schools

The requirement of the law that state-aided vocational schools shall be conducted in a manner approved by the Commissioner of Education is general rather than specific, and may be understood to contemplate his intimate knowledge and supervision of the methods, work and maintained condition of such schools and to aid him therein there will need to be frequent official inspection.

Reports

Periodical reports from the schools will also be informing to the Commissioner, and regular administrative reports will be required in prescribed form, upon blanks prepared under his supervision.

Required Reports

1 Preliminary report — required within 30 days of the opening of any evening vocational school or class for which state-aid is desired.

2 Annual statistical report — to be filed on or before August 1st of each year.

3 Annual financial report — to be filed on or before August 1st of each year.



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